

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A method of manufacturing electric machines, the method comprising:

a.) kinetically spraying an admixture comprising a permanent magnet powder and a soft magnetic binder onto a first substrate to form permanent magnetic elements on the first substrate;

b.) introducing persistent magnetization into the magnetic elements through application of concentrated magnetic fields of sufficient strength to cause magnetic dipole alignment in the deposited material; and

c.) forming planarized coils onto a second substrate by said kinetic spraying process, the second substrate being electrically insulating and adjacent to the first substrate.

2. (Original) The method of claim 1 wherein the planarized coils are adapted to develop an electric voltage in the presence of a magnetic field acting therefore as a generator.

3. (Original) The method of claim 1 wherein the electric machine is adapted to develop an electromagnetic torque through application of an electric current, thereby creating a motor.

4. (Original) The method of 1 wherein the permanent magnetic powder is selected from the group consisting of iron, nickel, cobalt, samarium-cobalt, AlNiCo, neodymium iron boron, and samarium iron nickel.

5. (Original) The method of 1 wherein the soft magnetic binder is selected from the group consisting of iron, nickel, cobalt, and alloys of these materials.

6. (Original) The method of 1 wherein particles in the soft magnetic binder are individually coated with oxide films, organic films or polymeric films to provide a resistance to eddy current flow between adjacent particles and hence reduce core loss in presence of varying magnetic field.

7. (Original) The method of 1 wherein the planarized coils comprise a component selected from the group consisting of copper and its alloys, aluminum and its alloys, silver, and gold.

8. (Original) The method of 1 wherein the first substrate is a soft magnetic material whose function is to internally direct magnet flux, thereby producing a controlled magnetic flux pattern emanating from a free surface of the applied admixture.

9. (Original) The method of 1 wherein the second substrate is an electrically and magnetically insulating material.

10. (Original) The method of 1 wherein the second substrate consists of a soft magnetic material insulated from the coil by a film of electrically insulating material.

11. (Original) An electric machine made by the method of claim 1.

12. (Original) A method of manufacturing electric machines, the method comprising:

a.) kinetically spraying admixture of permanent magnet powders in a ductile, soft magnetic or non-magnetic matrix onto a first substrate to form permanent magnetic elements on the first substrate;

b.) introducing persistent magnetization into the magnetic elements through application of concentrated magnetic fields of sufficient strength to cause magnetic dipole alignment in the deposited material; and

c.) placing one or more coils adjacent to the first substrate.

13. (Original) The method of claim 12 wherein the one or more coils are adapted to develop an electric voltage in the presence of a magnetic field acting therefore as a generator.

14. (Original) The method of claim 12 wherein the electric a machine is adapted to develop an electromagnetic torque through application of an electric current, thereby creating a motor.

15. (Original) The method of 12 wherein the permanent magnetic powder is selected from the group consisting of iron, nickel, cobalt, samarium-cobalt, AlNiCo, neodymium iron boron, and samarium iron nickel.

16. (Original) The method of 12 wherein the soft magnetic binder is selected from the group consisting of iron, nickel, cobalt, and alloys of these materials.

17. (Original) The method of 12 wherein the soft non-magnetic binder comprises copper.

18. (Original) The method of 12 wherein particles in the soft magnetic binder are individually coated with oxide films, organic films or polymeric films to provide a resistance to eddy current flow between adjacent particles and hence reduce core loss in presence of varying magnetic field.

19. (Original) The method of 12 wherein the first substrate is a soft magnetic material whose function is to internally direct magnet flux, thereby producing a controlled magnetic flux pattern emanating from a free surface of the applied admixture.

20. (Original) An electric machine made by the method of claim 12.

21. (Original) A method of manufacturing electric machines, the method comprising:

a.) kinetically spraying an admixture comprising a permanent magnet powder and a soft magnetic binder onto a first substrate to form a first electric machine component comprising permanent magnetic elements on the first substrate;

b.) introducing persistent magnetization into the magnetic elements through application of concentrated magnetic fields of sufficient strength to cause magnetic dipole alignment in the deposited material;

c.) kinetically spraying a powder of iron, nickel, cobalt or alloy thereof to form a second electric machine component; and

d.) forming planarized coils on a second substrate by a kinetic spraying process, the second substrate being electrically insulating and adjacent to the first substrate.

22. (Original) The method of claim 21 wherein the planarized coils are adapted to develop an electric voltage in the presence of a magnetic field acting therefore as a generator.

23. (Original) The method of claim 21 wherein the electric machine is adapted to develop an electromagnetic torque through application of an electric current, thereby creating a motor.

24. (Original) The method of 21 wherein the permanent magnetic powder is selected from the group consisting of iron, nickel, cobalt, samarium-cobalt, AlNiCo, neodymium iron boron, and samarium iron nickel.

25. (Original) The method of 21 wherein the soft magnetic binder is selected from the group consisting of iron, nickel, cobalt, and alloys of these materials.

26. (Original) The method of 21 wherein the planarized coils comprise a component selected from the groups consisting of copper and its alloys, aluminum and its

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alloys, silver, and gold.

27. (Original) An electric machine made by the method of claim 21.